Controversies

- Cultural bias
- Ethical costs of conducting research
- Non-human animals
- Sexism
- Scientific status

**What is a controversy?**

It is a disagreement on a matter of opinion (Oxford Concise Dictionary).

You will need to be able to present two sides of the debate, although you may find that you do not agree wholeheartedly with either side of the argument, and prefer to remain in the middle. It is important that you draw a conclusion, even if you don’t find a resolution.

**Key Points:**

- The controversies of psychology are fundamental to an overall appreciation of psychological endeavours. There should be an awareness of them throughout the studying of the specification. Their inclusion for assessment is clearly in Component 3, and should be considered as synoptic questions that can glean the content from other areas you’ve learned as much as possible.
- Care should be taken not to simplistically recycle without ensuring absolute relevance and appropriateness to the context of the question.
- To assist with the preparation of this section, detailed bullet points have been included in the specification to emphasise the areas considered key to appreciating the controversy.

**Specification requirements:**

For each of the five controversies it will be necessary for learners to:

- understand the issue and why it is controversial
- apply knowledge and understanding to controversies in psychology
- make judgements and come to conclusions about the controversies from a psychological perspective.
## Cultural Bias

<table>
<thead>
<tr>
<th>Exploration of the controversy to include...</th>
<th>What is expected?</th>
<th>Evidence from the Eduqas specification</th>
<th>How used?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross cultural studies</td>
<td>Examples of studies that have purposefully considered a sample from a variety of cultures, either as part of their independent variable or as a way of ensuring higher population validity.</td>
<td>Myers &amp; Diener Component 1</td>
<td>Example of a cross cultural work. Why needing to carry out cross cultural research.</td>
</tr>
<tr>
<td>Difference or bias</td>
<td>There are studies which provide findings that the performance of different cultures vary between each other. What must be considered is whether the research is demonstrating a bias or whether there is a genuine difference.</td>
<td></td>
<td>The need for cross cultural work as evidence for the assumption (e.g. Buss research on mate preference).</td>
</tr>
<tr>
<td>Ethnocentrism</td>
<td>Understanding the tendency for psychologists to use their own culture as the standard by which to judge and evaluate other cultures. In other words, taking an ethnocentric point of view means using their understanding of their own culture to gauge what is &quot;normal&quot;. This ultimately leads to biases and a tendency to view cultural differences as abnormal or in a negative light. It can also make it difficult to see how your own cultural background influences your behaviours.</td>
<td>Sampling Component 2</td>
<td>From own personal investigations, an awareness of how researchers choose from own group.</td>
</tr>
<tr>
<td>Historical and social context</td>
<td>It must be recognised that culture is not only a geographical concept but also a change of time (&quot;the past is a foreign country&quot;), and therefore even within the same demographics there would be changes over time.</td>
<td>Bowlby Component 2</td>
<td>Demonstration of cultural changes due to different era, and possible shift in values and expectations.</td>
</tr>
<tr>
<td>Weak example</td>
<td>Care must be taken that this controversy is not simply a consideration of the geography of where work was done and presuming low generalisability.</td>
<td>Loftus and Palmer Component 1</td>
<td>This was carried out in America and therefore shows ethnocentrism, and cannot generalise to rest of the world.</td>
</tr>
</tbody>
</table>

This is correct in terms of identifying a sample from one culture, but there needs to be a consideration of the nature of the research. It is investigating how memory can be impacted by use of language, and therefore it is not obvious that a European sample, for example, of students would respond any different. If however the candidate does go on to demonstrate specific research in this area, it would ensure contextualisation and would gain higher marks. For example, in this case it could be apt to refer to cross cultural investigations of cognitive differences which have suggested that East Asians and Westerners have different cognitive styles; East Asians tend to be more holistic, and Westerners tend to be more analytic.
<table>
<thead>
<tr>
<th><strong>Glossary</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alpha bias</strong></td>
</tr>
<tr>
<td><strong>Beta bias</strong></td>
</tr>
<tr>
<td><strong>Ethnocentrism</strong></td>
</tr>
<tr>
<td><strong>Cultural relativism</strong></td>
</tr>
<tr>
<td><strong>Eurocentrism</strong></td>
</tr>
<tr>
<td><strong>Imposed etic</strong></td>
</tr>
<tr>
<td><strong>Culture</strong></td>
</tr>
<tr>
<td><strong>Subculture</strong></td>
</tr>
<tr>
<td><strong>Individualistic</strong></td>
</tr>
<tr>
<td><strong>Collectivist</strong></td>
</tr>
</tbody>
</table>
Cross cultural studies

Psychologists conduct cross cultural studies to see if cultural practices affect behaviour. They are a kind of natural experiment; the IV is, for example, child-rearing practices in different cultures, and the DV is behaviour, such as aggression. By conducting this research the psychologist is able to find out whether aggression is determined by different cultural child-rearing practices.

**Advantages and disadvantages:**

✓ Studies such as those above allow us to find out whether behaviours are innate:

✓ Buss (1989) studied relationships in 36 cultures, with over 10000 participants, and found that males look for signs of fertility and youth, while females looked for resources in potential mates.

✗ Western psychologists conducting research in a different culture may not understand local practices and meanings, and then misinterpret participants’ understanding. How did Buss ensure that his research removed these discrepancies?

A second problem is that the test or procedures may have been developed in the US and are not valid in other cultures. This is called an imposed etic.

✗ The sample chosen may not actually represent the culture of interest and no generalisations can be made.

✗ Observer bias is an issue, the observer’s expectations alter what they see. There are also problems of investigator effects – where the participants try to guess what answers the researcher wants and provide those answers.

Myers and Diener is an example of a study which purposefully considered a sample from a variety of cultures. How has this study ensured it had high population validity? What are the strengths of the study? What are the weaknesses?
Biases in cross-cultural research

One final consideration, in relation to cross-cultural research, is the bias involved when an observer conducts research in a foreign culture. A classic example of such research is the studies conducted by Margaret Mead (1935) where she observed three tribes in New Guinea (see pages 79–80 and 270). Mead concluded that the Mundugumor tribe were all aggressive (masculine quality) regardless of sex. Neither gender gave much attention to child rearing. In contrast the Arapesh were all warm, emotional, and non-aggressive (feminine qualities). Husbands and wives shared everything, including pregnancy: the men took in bed during childbirth! The Tchambuli exhibited a reversal of our own gender roles. Women reared the children but also looked after commerce outside the tribe. The men spent their time in social activities, and were more emotional and artistic.

But how reliable are observations made of individuals in different cultural situations? The greatest problem is the effect that expectations have on what the observer sees. The study of perception tells us this. Perception is a “top-down process”: much of what we see (or hear) is incomplete and ambiguous. Therefore we impose our own meaning to interpret these data. We draw on past experiences and expectations. Expectations also influence the categories that are selected and the way that data are recorded.

A further problem for cross-cultural research is that foreign researchers may simply misinterpret the language or cultural practices and draw erroneous inferences. It is also true that they are likely to sample a very small group of individuals within the culture they are studying and this sample may be unrepresentative. Participants aware they are being observed may not behave naturally. For example, concerning another study undertaken by Mead of puberty in Samoa (1928), Freeman (1983) criticised Mead’s conclusions, arguing that she may not have established sufficient trust with the Samoan people to expect total honesty from them. One woman in Samoa told Freeman that she had not being honest with Mead about her sexual experiences. Freeman also claimed that Mead was not sufficiently closely involved with the Samoan people and that she saw only what she wanted to see.
Difference or bias?

It is easy to confuse difference with bias. Many studies have found differences between human cultural groups. Summarise the findings of Myers and Diener (1995) from Component 1:

These differences are fact. Cultural bias is not concerned with these differences, it is concerned with the distorted view that psychologists have because of their own cultural affiliations and how this bias affects their theories and studies.

How could the findings by Myers and Diener be due to cultural bias?

Western psychologists can fix this by working with indigenous psychologists to provide alternative views of human behaviour when creating psychological theory and research.

Historical and social context

Culture does not apply to geographical location; sub-cultures exist that do not have a geographical identity, but that share a set of values, customs or beliefs (for example nurses or students). A particular issue is the use of students as participants, they are a unique sub-culture, what is the problem with this?

Regarding historical context, you could look at Bowlby’s research. Why may it be difficult to generalise?

Use page 161 of the textbook, look at the blue box ‘research on researchers’. Summarise some of the findings below:
Complete the table below, finding evidence to illustrate each of the issues:

<table>
<thead>
<tr>
<th>What is it?</th>
<th>Relevant psychological research</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ethnocentrism</strong></td>
<td></td>
</tr>
<tr>
<td>Alpha bias</td>
<td></td>
</tr>
<tr>
<td>Beta bias</td>
<td></td>
</tr>
</tbody>
</table>

The opposite of ethnocentrism is cultural relativism, but it can still result in bias:

<table>
<thead>
<tr>
<th>What is it?</th>
<th>Relevant psychological research</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cultural relativism</strong></td>
<td></td>
</tr>
<tr>
<td>Alpha bias</td>
<td></td>
</tr>
<tr>
<td>Beta bias</td>
<td></td>
</tr>
</tbody>
</table>

Can you consider why the sampling technique used in your personal investigations may be ethnocentric?
Extra research/evidence for culture bias (think about alpha/beta bias and ethnocentrism)

- **Amir & Sharon (1987)** attempted to repeat the findings of six American studies on an Israeli population similar to that used in the American studies. There were 64 significant findings in the American studies, only 24 of which were repeated amongst the Israeli participants. The other 40 findings were not replicated. In addition, there were six new findings in the Israeli sample that had not been obtained in the American samples. *What does this suggest about bias in research?*

- Is the country the same as a culture, or are there several cultures within a single culture? **Vandello and Cohen (1999)** found that the individualistic culture (self-centred approach) applied to most Americans in the Mountain West and the Great Plains, whereas a more collectivist culture (group-centred approach) applied in the Deep South. *What does this suggest about the research bias within a culture?*

- **Nobles (1976)** argues that the Eurocentric psychology has presented a view of humankind that is based on one particular type of culture and is not representative of all people. The European worldview is orientated along the principles of "survival of the fittest" and "control over nature". These two principles therefore affect European values and customs with an emphasis on competition, individual rights, independence and uniqueness. The African worldview however differs. The emphasis is on "survival of the tribe" and "oneness with nature" leading to the values of co-operation, interdependence and collective responsibility. *What does this suggest about applying Western theories and ideas to other cultures?*

- It has been argued that while the collectivist/individualistic distinction is important, not everyone in a particular culture will hold the views of the majority i.e. a person in an individualistic culture may not necessarily be individualistic themselves. **Trandis et al (2001)** estimated that only about 60% of people conform to the dominant culture. *What does this suggest about the interpretation of results?*

- The study of intelligence has historically been accused of assuming that emic constructs are actually etic constructs. It has been argued that abilities of problem solving, reasoning, memory and so on define intelligence in every culture. **Berry (1974)** disagreed with this, favouring cultural relativism. This means that the meaning of intelligence would be different in every culture. For example, intelligence in western culture may be defined as skills in literacy and numeracy, whereas in more primitive society, it may be more manual skills, such as hunting or fire making. **Cole et al (1971)** asked adult members of the Kpelle tribe in Africa to sort familiar objects into groups. In Western societies, people would sort the objects into categories (food, tools etc). The Kpelle tribes people sorted them into functional groups (a knife with an orange because an orange can be cut by a knife). Therefore, what is intelligent behaviour can differ from culture to culture. (When the Kpelle were shown how to sort the items in a "Western" way, they thought it was a stupid way of doing so!). *What does this suggest?*

- **Kleinman and Cohen (1997)** pointed out that detailed work done by non-Western psychologists has uncovered many disorders totally ignored by the DSM IV (e.g. pa-fen: the fear of wind, found in China). What does this suggest about cultural bias found in the DSM IV? *What does this suggest about the cultural bias in diagnosis?*

**Conclusion**

What can we conclude from the evidence into culture bias? Is it an issue? Are we successful at eradicating it from psychology? How can we make things fairer?
'All humans behave in the same way'. Evaluate the validity of this statement taking into account cultural bias. [25]

Plan your answer in the space provided:
### Ethical costs of conducting research

<table>
<thead>
<tr>
<th>Exploration of the controversy to include...</th>
<th>What is expected?</th>
<th>Evidence from the Eduqas specification</th>
<th>How used?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Benefits to society and economy</strong></td>
<td>This is about offsetting the balance against the potential costs (almost a cost-benefit analysis) to determine if benefits outweigh the ethical costs which can then be excused. Bateson's cube is an example of where this can be seen.</td>
<td>Classic research Component 1</td>
<td>To demonstrate the important findings from carrying out research in sensitive areas (e.g. Bowlby, Watson &amp; Rayner, Raine).</td>
</tr>
<tr>
<td><strong>Individual participants</strong></td>
<td>Should the welfare of individuals be worthy of greater consideration than the potential benefits to wider society?</td>
<td>Milgram Component 2</td>
<td>To demonstrate the balance of harm to an individual for the benefit of the wider population.</td>
</tr>
<tr>
<td><strong>Potentially negative consequences for society</strong></td>
<td>There could be instances whereby not carrying out the work could result in negative outcomes for society. By exploring the difficult/sensitive areas of behaviour, there is an opportunity for significant improvements to society (e.g. the use of the forbidden experiment in determining the influences of nature and nurture).</td>
<td>Raine Component 1</td>
<td>If we do not know about certain areas of human behaviour, how can society deal with pathology? If psychology can get the answers, it has a responsibility to ask the questions (and vice versa).</td>
</tr>
<tr>
<td><strong>Risk management techniques used by psychologists</strong></td>
<td>It is of course logical to consider the British Psychological Society's codes, but consideration could also be given to those in differing cultures to compare and contrast where applicable.</td>
<td>The components of ethical guidelines Component 2</td>
<td>To gain an understanding of the regulations that are in place and how to deal with these.</td>
</tr>
<tr>
<td><strong>Weak example</strong></td>
<td>What is not wanted here is simply a list of examples of bad ethical practice in research. There needs to be an engagement with the issue of balancing the concerns.</td>
<td>Milgram Component 2</td>
<td>The participants were deceived and therefore this is unethical, as they did not know what they were doing. They also showed signs of distress.</td>
</tr>
</tbody>
</table>

A simplistic list of ethical issues is not enough as there needs to be a deeper consideration of the whole.
Should researchers ever breach ethical guidelines?

This Factsheet explores the issue of ethics in psychological research, specifically the reasons for and against researchers breaking ethical guidelines. Guidance is provided to help you to satisfy the criteria set out by the exam boards. Words in bold are explained in the glossary and the worksheet at the end provides an opportunity to practice what you have learned.

The examiners will expect you to:

- Contextualise your answer if possible – relate the study to real-life applications.
- Demonstrate an understanding of the theory that underpins the study.
- Be able to present an argument for or against breaching ethics convincingly.
- Be able to apply critical thinking to the issue of ethics in research.

A. Ethical guidelines and their importance in psychological research:

The main ethical guidelines as determined by the British Psychological Society (BPS) are as follows:

- Participants must give their informed consent before taking part in research; they must be told what will be required of them during the process.
- Participants must not be deceived as to the nature of the research.
- Participants have the right to withdraw from the research at any stage and their data destroyed.
- Participants must leave the research process in the same condition in which they entered; no harm or distress must be experienced by them.
- Participants’ identities must not be revealed so as to ensure confidentiality.
- Participants must be debriefed after the research and given access to any further information or guidance that might be appropriate in the circumstances.
- Participants’ privacy must be respected.
- Participants under the age of 16 must have parental consent to take part in research.

These ethical guidelines constitute a code of conduct for all researchers in psychology to follow. Psychological researchers have an ethical responsibility to follow these guidelines; if a piece of research is deemed to be unethical then the BPS/ethics board will not allow it to be carried out.

B. Ethical guidelines and their relevance to psychological research

There are numerous studies that would appear to breach ethical guidelines as we recognise them today. However, these studies date back to a time before the BPS introduced its code of ethics in 1985. This means that it is inaccurate to talk of studies ‘breaching ethical guidelines’ if those studies were carried out prior to 1985. Examiners aren’t keen on this phrase being used nor do they like it when students write that ‘this study is unethical’. It is wise to bear this in mind when constructing your written responses.

There are several pieces of research that you are probably familiar with from your study of psychology that could be said to breach ethical guidelines. Such studies include:

* Milgram’s study of obedience (1963)
* Zimbardo’s prison study (1972)
* Watson & Rayner’s ‘Little Albert’ (1920)

The findings from studies such as Milgram in which ethical guidelines have been breached have provided ground-breaking discoveries into human behaviour. You have probably considered the ethical breaches in these studies quite comprehensively already but we will revisit them briefly to emphasise what you should focus on when looking at studies that breach ethical guidelines:

* The methodological reasons for the breach of ethics e.g. why was it thought necessary to deceive participants or to place them under stressful conditions?
  - In the case of Milgram there is the increased possibility of demand characteristics that would affect the validity of the study; if participants had been informed that their own levels of obedience were being measured then it could have led to artificial behaviour (i.e. participants might have refused to carry on with the shocks).
  - Not using deception (i.e. if participants had been told that the shocks were fake) would have invalidated the study as it was the battle between doing the right thing and being destructively obedient that Milgram was interested in observing.

* The overall findings that could probably not have emerged if ethics had been applied e.g. would Zimbardo have been able to highlight the tyranny of institutions without harming his participants?
  - The answer to this question is probably no. It was the very nature of the suffering of the prisoners and the tyranny of the guards that caused Zimbardo to conclude that brutal institutions produce brutal behaviour.

* The idea that the findings and conclusions could possibly have been achieved without harming or deceiving participants e.g. could Watson and Rayner have devised a different procedure to investigate how phobias are formed?
The use of an infant as participant in this study is one area that most people would find difficult to justify. It could be suggested that Watson and Rayner could have used an adult participant who already had a phobia which they could then use classical conditioning techniques to reduce or eliminate.

Exam Hint:- Examiners report that one of the best ways to score highly on the exam is to apply your answers to the context of the question. Simply listing the ways in which ethical guidelines have not been followed in a study is insufficient to achieve a top mark. You need to give examples from the study to illustrate the points you make. Using the background and context of the study will give your answer more depth and meaning, which should take your answer into the top mark bands.

Examiners’ Comments: - Candidates rarely discuss, for example, why particular ethical guidelines were breached or how experimenters could counterbalance for breaching them. Nor do they look at the ethical considerations relevant to the topic they are writing about – they will often just apply the same ethical issues to a range of studies instead of selecting the most appropriate and relevant. Candidates focus too much on ethical violations rather than the demands of the question.

C. How to incorporate the issue of breaching ethical guidelines into exam answers:

Hofling et al (1966):

Aim: to investigate the levels of destructive obedience shown to doctors by nurses.

Method: field study.

Sample: 22 nurses working the night shift in a hospital.

Procedure: A nurse would be phoned by ‘Dr Smith’ (whom she did not know and who was actually played by a confederate) and told to give 20mg of an unfamiliar drug, ‘Astrotén’ (actually a sugar pill) to a patient. When the nurse checked she saw that the maximum dosage for this drug should be 10mg. The nurses were observed to see what they would do; if they administered 20mg of this drug it would be contravening the hospital rules.

Results: 21 of the 22 obeyed the potentially dangerous order and gave the patient 20mg of ‘Astrotén’, knowing that 10mg was the maximum daily dose. When other nurses were asked to discuss what they would do in a similar situation (i.e. a control group), 21 out of 22 said they would not comply with the order.

‘Should Hofling (1966) have breached ethical guidelines?’

Possible answer to the question: One of the main arguments in support of Hofling having breached ethical guidelines is to expose the potentially destructive outcomes of blind obedience to authority. The nurses in this field experiment did not question the orders of ‘Dr Smith’ even though they knew that to follow his command would be to put the patient in danger and to flout hospital rules. Such unthinking obedience if generalised to real-life situations could result in actual physical harm to a patient. Hofling’s study highlights the effect that authority might have in life-or-death situations and it challenges the idea that nurses should follow the idea that ‘doctor knows best’.

On the other hand, the nurses might have felt humiliated, embarrassed and possibly shocked at the potentially life-threatening procedure they had agreed to, which places the study in breach of the guideline that participants should be protected from harm. The nurses were also deceived into carrying out the order by a fake doctor and they were clearly in no position to give their consent to take part in the study, two points which would mean that an ethics committee would not approve the study today.

Overall, it could be argued that Hofling’s study provides compelling evidence as to the negative aspects of obedience to legitimate authority figures (echoing the findings of Milgram in his 1963 study of obedience). The way in which he achieved his results may be open to debate but some would claim that the ends justify the means, despite the potential harm to the participants. An alternative way of investigating this topic might have been to ask the nurses to take part in a role play situation with an actor playing the part of the doctor in one condition and an actual doctor who was known to the nurses taking part in the other condition. In this way it might be possible to ascertain different levels of obedience to the destructive command depending on who was giving the order. This is less ecologically valid but it does ensure that ethical guidelines are adhered to.

The response given above sets out clearly and in a straightforward way the possible arguments that you could make when discussing why or why not a researcher might breach ethical guidelines. The response is balanced and it does not take an overly judgemental or opinionated approach.

EXAMINERS' COMMENTS:- Although student evaluation tends to be rather generic, description of the evaluation issue is often explicit in most responses. Importantly, candidates should understand that evaluation can take various forms, so understanding both strengths and weaknesses with elaborative detail is important for studies, research methods and theories. However, one of the common problems with student evaluations in essay questions is where a scattergun approach is applied and this tends to result in a lack of high level marks being awarded. Candidates need to read questions carefully and present knowledge appropriately.

Exam Hint:- Candidates will probably have realised that most of the ethically controversial studies are quite dated and took place at least 40 years ago. In your evaluation of these studies you should bear this in mind; society changes over time and it may be that these studies’ results would be quite different if carried out today. Use this appropriately as an evaluation point linked to ethics.

C. How to use ethics as an issue in studies which are, largely, ethical

We shall now consider the ethics of two studies which were conducted post-BPS guidelines and which, on the face of it, adhere to ethical guidelines. Considering the possible ethical problems with such research is therefore not as straightforward as with more obviously ethics-compromised studies and it should to some extent encourage you to consider the issue of ethics in a more subtle way.

Castellow et al (1990) – ‘The effects of physical attractiveness on jury verdicts’

Aim: to test the hypothesis that an attractive defendant is less likely to be judged as being guilty of a crime and that when a victim is attractive then the defendant is more likely to be found guilty of the crime.

Method: A laboratory experiment using a mock trial format.
Sample: 71 male and 74 female psychology students from East Carolina University.

Procedure: Participants read a series of documents on a sexual harassment case; photographs of defendant and victim were included (these had been rated prior to the study on a scale of 1-9, 9 being very attractive). The dependent variable was in the form of a question, “Do you think Mr Radford is guilty of sexual harassment?” The participants were also asked to rate the defendant and victim on 11 bipolar scales e.g. dull-exciting, warm-cold. Not all participants were given the same photographs so that a range of levels of attractiveness were covered.

Results: An attractive defendant was found guilty 56% of the time whereas 76% of unattractive defendants were found guilty. When the victim was attractive the defendant was found guilty 77% of the time compared to 55% for an unattractive defendant. Attractive defendants and victims were rated more positively on the bipolar variables than the unattractive examples.

What ethics-related evaluative points could you make about this study?

It is true that on the face of it this study does not appear to raise any ethical concerns – the trial was a mock trial; the photographs were not of actual defendants and victims; the participants gave consent, were given right to withdraw and they were debriefed. There was no deception and no obvious harm to participants.

Here is an example of a top-band evaluation of the Castellow study using the issue of ethics:

Castellow (1990) does not obviously breach ethical guidelines but one pertinent question can be asked about its procedure: how ethical is it to ask participants to rate others according to their level of attractiveness? The argument may be that this is not worthy of comment but a closer analysis of this question stirs up some thought-provoking points. Such points include the idea of perpetuating a beauty ideal; there are stereotypical ideas as to what constitutes ‘attractive’ in Western society and it could be argued that a study such as this one works to confirm those ideals and to exacerbate possible prejudices people may have regarding what is attractive and unattractive. Although this argument does not link to any specific ethical guideline it is something to consider when evaluating studies which could in some ways contribute to confirming biases and discrimination within society.

Examiners’ Comments: Top-band candidates are able to interpret their material (ie studies, theories) to the extent that they are bringing a fresh perspective to well-worn ideas. Interpretation involves taking an issue or element of a study and considering it from a new and interesting perspective. Examples of this might be a discussion of how a piece of research might be viewed today; using a feminist perspective; considering research in the light of current world events.

Examiners’ Comments: Candidates with a good knowledge of the material and well-practised skills perform best. The quality of candidate responses varies widely each year, ranging from impressive insight and eloquence to quite poor construction, development and presentation. One of the factors deciding how top band marks are awarded is the extent to which candidates respond to the precise demands of the question. Regurgitation of stock phrases (e.g. ‘this study is not ethical because the participants did not give consent’) without really understanding what is meant (e.g. the difference between consent and informed consent) is still a feature. Purely formulaic and PEC-style responses are usually in evidence. Whereas these may be applicable, they must indicate student engagement with the material, and there are more expedient approaches.

What follows is another top-band student response based on an evaluation of the following study:

Raine (1997) – ‘Brain abnormalities in murderers indicated by positron emission tomography’.

Aim: to investigate the idea that specific areas (eg the pre-frontal cortex – PFC) may be less active in impulsive murderers.

Sample: 41 prisoners charged with murder or manslaughter who were pleading ‘not guilty by reason of insanity’ and a control group (matched pairs design) of non-murderers.

Method: participants were injected with a radioactive tracer and then placed in a PET scanner. They were then asked to undertake a simple cognitive task for 32 minutes while their brains were scanned for metabolic activity.

Results: there was found to be less activity in the pre-frontal cortex of the murderers which is linked to loss of self-control and altered emotion.

Possible student response to this study using ethics as evaluation:

Raine (1997) uses a well-designed study which has provided some interesting insight into the issue of whether biology is linked to criminality. It is, however, quite concerning that this study appears to highlight that one specific area of inactivity in the brain (the PFC) can be linked to impulsive homicidal tendencies. This is worrying for a number of reasons related to ethics. Firstly, the idea that impulsive murder might be linked to low PFC activity might be used in a sinister fashion by future governments/leaders as part of a eugenics programme, where people found to have a low-functioning PFC are criminalised and possibly kept away from society. On the face of it this may seem to be an extreme measure but Raine’s research can be viewed through the prism of genetic determinism ie you are what your genes have made you. This approach also rules out the possibility of free will; in other words it does not allow for the murderers to have had a conscious awareness of right and wrong when they committed their crimes. This might be said to be unethical in that it allows the murderers a ready-made excuse for their actions – something which the families of their victims would doubtless find very distressing.

Glossary
Bipolar – two extremes of a variable eg hot-cold.
BPS – The British Psychological Society is the representative body for psychology and psychologists in the UK. It is responsible for the development, promotion and application of psychology for the public good.
Confederate – someone who is working with the researcher and who knows about what is taking place in a study (e.g. ‘Dr Smith’ in the Hofling study).
Demand characteristics – any aspect of an experiment which means that the participant interprets the study in a particular way and adjusts their behaviour accordingly.
Dependent variable – the variable which is measured by the researcher.
Destructive obedience – obeying an order that will result in another person being harmed.
Ecological validity – the extent to which real behaviour is measured in a real/natural setting.
Empirical evidence – evidence derived from research based on the collection, analysis and evaluation of data.
Eugenics – a set of beliefs and practices that aims at improving the genetic quality of the human population.
Free will – the idea that human beings have choice and control over their actions.
You are already familiar with ethical issues from your Component 2 study. But now you will need to consider the conflict between the needs for researchers to produce research with benefits for society, and the needs of individual participants to be treated fairly.

According to Gross (2003) particular ethical issues are raised in psychological research because humans and animals have feelings and can experience pain, fear and so on. They are sentient thinking beings, and are capable of experiencing emotional as well as physical pain. There is also the issue raised that inducing such feelings in another being can be seen as morally unacceptable. These are issues that do not tend to arise in other sciences.

Psychologists have an obligation to two sets of people. Firstly the psychologist has an obligation to the participants. They have to ensure that the participant does not come to any harm as part of the study, and in essence should leave the study in the same state in which they entered. Secondly, the psychologist has an obligation to seek to and share knowledge which will better the human race. The controversy arises when there is a conflict of interest between these two groups of people. The costs to the participants can be seen as the ethical costs while the benefits to the human race would be the scientific benefits.

<table>
<thead>
<tr>
<th>Benefits to society and the economy</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Component 1 you considered the social, ethical and economic implications of the classic research. Complete the table below to consider the benefits of psychological research to society and the economy:</td>
</tr>
<tr>
<td><strong>Benefits of psychological research to society and the economy</strong></td>
</tr>
<tr>
<td>Raine, Buchsbaum and LaCasse</td>
</tr>
<tr>
<td>Bowlby</td>
</tr>
<tr>
<td>Watson and Rayner</td>
</tr>
<tr>
<td>Loftus and Palmer</td>
</tr>
<tr>
<td>Myers and Diener</td>
</tr>
</tbody>
</table>

Psychological research offers many benefits to society, for example, the use of psychoactive drugs for the treatment of mental health. The McCrone report (2008) estimated that the costs of mental health in England is £22.5 billion a year. The report compared psychoactive drugs to therapies and said...

-------------------------------------------------
Bateson’s cube can be used to weigh up costs and benefits of research:

**Individual participants**

Psychological research depends on the participants agreeing to take part (informed consent). For example, all drugs will need to be tested on volunteers, and families of those involved in case studies will need to agree if they are interviewed. You will need to consider their welfare in equal consideration to society.

The best way to weigh up the benefits and costs of psychological research is to look at specific ethical issues, and to choose studies from psychology to demonstrate the issue. Consider each of these studies, is the harm acceptable? Is the harm balanced by the benefits of the research?

Watson and Rayner:

Milgram
Potentially negative consequences for society

Sometimes not carrying out psychological research could result in negative consequences. For example, investigating whether there are racial differences in IQ, or whether homosexuality is inherited may be damaging to members of that racial group or sexual orientation as it adds scientific credibility to an existing prejudice.

The social consequence of this research extends to family, co-workers or the group the participant represents. This makes socially sensitive research damaging to a number of people.

What is the solution to this problem?

Raine, Buchsbaum and LaCasse’s research could have potentially negative consequences for society. Can you consider why this is the case?

Risk management techniques used by Psychologists

To manage ethical costs psychologists develop professional guidelines. All professional groups have these, lawyers, teachers, doctors etc. They monitor standards and behaviour of the group. Describe the differences found in these guidelines in countries around the world:

Conclusion
‘Are unethical studies in psychology acceptable if you consider their greater good to society?’
Justify your answer. [25]

Plan your answer in the space provided:
## Non-human animals

<table>
<thead>
<tr>
<th>Exploration of the controversy to include...</th>
<th>What is expected?</th>
<th>Evidence from the Eduqas specification</th>
<th>How used?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparative/ethological psychology</td>
<td>Comparative psychology is sometimes assumed to emphasise cross-species comparisons, including those between humans and animals. However, it should be recognised that direct comparisons should not be the sole focus of comparative psychology, and that intense focus on a single organism to understand its behaviour is just as desirable; if not more so.</td>
<td>Explanation for behaviours</td>
<td>Component 3 To support or challenge the explanations for human behaviours.</td>
</tr>
<tr>
<td>Use as a therapeutic device</td>
<td>Animal Assisted Therapy (AAT) is a method of treatment and rehabilitation whereby the animal becomes a ‘behavioural facilitator’ causing positive modifications in the behaviour and health of the patient.</td>
<td>Therapies</td>
<td>Component 1 As a comparison with named therapies for evaluative purposes</td>
</tr>
<tr>
<td>Speciesism</td>
<td>The idea that being human is a good enough reason for human animals to have greater moral rights than non-human animals. Speciesism is often condemned as the same sort of bigotry as racism or sexism.</td>
<td>Ways of modifying behaviour</td>
<td>Component 3 As an example of the effectiveness of using animals when dealing with particular behaviours.</td>
</tr>
<tr>
<td>Weak example</td>
<td>Simple reliance on general ethics and reference to research using animals, without consideration of the full picture.</td>
<td>Pavlov/ Skinner</td>
<td>Component 1 They used animals in their research, and so the theories cannot be generalised to humans as we are more complicated than dogs and rats.</td>
</tr>
</tbody>
</table>

These studies were the foundations of behaviourism. There needs to be a recognition that the animals were a starting point, and that later work demonstrated that validity of conditioning as explanations for behaviour.
This Factsheet summarises some of the arguments about using non-human animals in psychological research. It also focuses on examiner comments about student answers on this topic. Terms in bold are explained in the glossary.

Exam hint: Depending on your exam board, you may need to write specifically about the arguments for/against use of non-human animals in research or write about it when evaluating a research study which used non-human animals.

A. Introduction
• Most psychological research uses human participants, but some psychological research does use non-human animals.
• The American Psychological Association (APA) states that about 7% - 8% of research studies use non-human animals.
• Of these animals: 90% are birds and rodents; about 5% are primates/monkeys; cats or dogs are rarely used.
• Animal studies are conducted in many areas of psychology – see Text Box 1.
• This Factsheet briefly summarises some arguments for/against using non-human animals in research and the guidelines before focusing on the examiners’ comments.

Text Box 1
Examples of areas in psychology which have used animal studies:
• Sleep: Jouvet (1967) examined sleep deprivation using cats.
• Eating behaviour: Teitelbaum et al. (1954) studied eating behaviour using rats.
• Perception: Blakemore and Cooper (1970) used kittens to investigate the effect of the environment on the development of visual perception.

There are many more areas which have used animal studies!

B. The arguments
Table 1: Some arguments for and against the use of non-human animals in psychological research.

<table>
<thead>
<tr>
<th>For</th>
<th>Against</th>
</tr>
</thead>
<tbody>
<tr>
<td>It significantly contributes to the scientific knowledge of behaviour, such as: basic learning processes; thirst and hunger; perception; aggression; the link between stress and illness, etc.</td>
<td>It can be dangerous to think that the advance in scientific knowledge is enough to justify using animals (a ‘science at any cost’ view) as it can lead to the mistreatment of vulnerable populations, both animal and human.</td>
</tr>
<tr>
<td>It can lead to advances in areas that improve the well-being of humans and have practical applications. E.g., behavioural treatments based on conditioning.</td>
<td>The benefits of animal research are overstated.</td>
</tr>
<tr>
<td>Strict laws and codes of conduct safeguard the animals from mistreatment or cruelty.</td>
<td>Humans are physically and mentally qualitatively different to other animals, so the research findings may not generalise to humans.</td>
</tr>
<tr>
<td>Many research studies cannot ethically be done using humans but are sufficiently important to justify the use of animals. e.g. deprivation studies.</td>
<td>Animals may suffer stress, pain and anxiety which cannot be justified by gains in scientific knowledge.</td>
</tr>
</tbody>
</table>

Text Box 2.
The British Psychological Society (BPS) produces ethical guidelines for the use of non-human animals in psychological research (2007). Some of these are:
• Psychologists should consider alternatives to using animals. However, if the benefits of using animals outweigh the costs then researchers must minimise suffering and the number of animals used.
• Researchers must follow the Animals (Scientific Procedures) Act 1986 and laws for animal welfare.
• Researchers are legally required to use the smallest number of animals necessary. Researchers must not deprive animals of food or other needs.
• Researchers are responsible for all of the animal’s needs and welfare (e.g., cage cleaning, good food).

See Factsheet 31 for more information.
C. How to improve your exam answers

(i) Do not state that all research with non-human animals is wrong without any explanation or discussion.
Examiners’ comments:
• Students described a study which had used non-human animals and then concluded that it had been wrong to use animals in this way, without explanation.
• Students referred to research being cruel or unfair without mentioning the ethical guidelines or certainty of benefits.

(ii) Know the reasons for using non-human animals in research.
Examiners’ comment:
• Many students did not show awareness of why specific animal research is carried out in psychology.

(iii) Do not be mistaken about the guidelines for using non-human animals.
Examiners’ comments:
• It is not correct that guidelines are less strict for non-human animal subjects than for human participants; British researchers who work with animals must go through clearance procedures.
• Some students made inappropriate allegations that researchers regularly break ethical guidelines in animal research.

(iv) Do not apply the ethical guidelines for research with humans to research with non-human animals.
Examiners’ comments:
• Students wrote that the researchers should have asked the animals for consent.
• Such statements as “Animals cannot consent or withdraw from research” are not appropriate.

(v) Write about the use of non-human animals in psychological research only.
Examiners’ comment:
• Too many answers concentrated on cosmetics testing and medical research rather than psychological research.

(vi) Explain about the generalisability of findings from non-human animals to humans.
Examiners’ comments:
• Many students evaluated animal research studies by just stating that “Experiments done on animals do not apply to humans” without any explanation, such as referring to the qualitative differences between humans and non-human animals.
• In the eyes of many students all research on animals cannot be generalised to humans in any way.

(vii) The use of non-human animals is an emotive topic, but stick to writing about the arguments for and against their use, rather than being emotional.
Examiners’ comments:
• Students should be careful not to use emotional statements, such as stating “It is not fair” or “How would you like it?”

Exam Hint: Using one study which used non-human animals, 
(a) explain how they were used and  
(b) give some arguments for/against their use.

Glossary
Emotive: something which stirs up emotion.
Qualitatively: related to the qualities of something.
When working with non-human animals, psychologists have to weigh up the benefits for society against the potential harm or pain the animals may feel. You have to make sure that your answer focuses on psychological research (and not animal testing e.g. for cosmetics), and you have to try and remain objective rather than using your emotions.

**BPS Guidelines for Psychologists Working with Animals**

The BPS (British Psychological Society) publishes guidelines for working with animals. Psychologists are advised to..

Visit this website and answer the questions that follow:

https://www.gov.uk/guidance/research-and-testing-using-animals

- What are the three Rs?

- What licenses are required under the Animals (Scientific Procedures) Act 1986?

Visit this website, go to page 11, box 10:


- What is the positive impact of research using animals?

Use as a therapeutic device

Pets have been shown to reduce the effects of stress. Allen (2003) found that the presence of a pet reduced the blood pressure of children when reading aloud, and buffered the elderly against life event stressors and reduced cardiovascular risk.

This article disagrees: https://digest.bps.org.uk/2016/12/19/the-evidence-for-the-psychological-benefits-of-animals-is-surprisingly-weak/

Animal Assisted Therapy (AAT) is a method of treatment and rehabilitation whereby the animal becomes a ‘behavioural facilitator’ causing positive modifications in the behaviour and health of the patient. It works for disturbed or socially isolated individuals to form trust relationships with other people. Dogs, cats, dolphins, fish, hamsters and horses have been used. Make some notes in the space below about AAT:

______________________________________________________________________________________________________________________________________________________________
______________________________________________________________________________________________________________________________________________________________
______________________________________________________________________________________________________________________________________________________________

Give one supporting study and one critical study of AAT:
✔️

______________________________________________________________________________________________________________________________________________________________
______________________________________________________________________________________________________________________________________________________________

✖️

______________________________________________________________________________________________________________________________________________________________
______________________________________________________________________________________________________________________________________________________________
Comparative psychology is:

Harlow (1959) carried out a famous study with infant rhesus monkeys...

How has this research been important for studying human infants?

What is the benefit of this research for animals?

Ethologists seek to study animals in a natural way that does not affect their behaviour, with little interference. Lorenz (1935)...

Choose three studies using animals from any of the components you’ve studied. Make sure that you can show the validity of conducting this research.

<table>
<thead>
<tr>
<th>Study</th>
<th>Links to human behaviour and validity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Speciesism

Speciesism is the idea that being human is a good enough reason for human animals to have greater moral rights than non-human animals. Speciesism is often condemned as the same sort of bigotry as racism or sexism (Singer, 1975). This is a utilitarian view; whatever produces the greater good for the greater number of individuals is acceptable.

Gray (1991) disagreed, and said that we have a special duty of care to humane and therefore speciesism is not equivalent to racism (as an example).

Tom Regan (1984) is at the opposite end of the spectrum to Gray and he believes that under no circumstances should animals be researched. This is an absolutist view; animals have the right to be respected and should never be used in research.

How can the ‘animals rights’ argument be criticised?

Can you think back to the methods of modifying behaviour? Draw on some examples where animals have been a part of the research, consider the animal rights of those involved:

<table>
<thead>
<tr>
<th>Method of modifying behaviour</th>
<th>Animals rights</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Conclusion
‘The use of animals in research is always justified’. Discuss the extent to which you agree with this statement. [25]

Plan your answer in the space provided:
### Sexism

<table>
<thead>
<tr>
<th>Exploration of the controversy to include…</th>
<th>What is expected?</th>
<th>Evidence from the Eduqas specification</th>
<th>How used?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender difference or bias</strong></td>
<td>There are studies which provide findings that the performances of different; genders vary between each other. What must be considered is whether the research is demonstrating a bias, or whether there is a genuine difference due to the differing biological structures.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Heterosexism</strong></td>
<td>Awareness of lesbian, gay, bisexual and transgender groups within psychological associations. Should their issues be set aside from mainstream psychology, or can these help with understanding human behaviour in general?</td>
<td>Formation of relationships</td>
<td>Component 1</td>
</tr>
<tr>
<td><strong>Historical and social context</strong></td>
<td>Whilst recognising the difference in the inclusion of women and men is a starting point, there also needs to be an overview of the period and an appreciation that the choices made were pertinent to the study and not simply an oversight of underlying sexism.</td>
<td>Milgram</td>
<td>Component 2</td>
</tr>
<tr>
<td><strong>The 'invisibility' of women in psychology</strong></td>
<td>In the study of psychology, the focus has been on the works of men rather than women. There is also a concern that the participants used are also primarily men, unless the research is investigating an aspect specific to women (e.g. pregnancy). Do women also tend to focus on 'lighter' aspects of the work rather than the truly important questions?</td>
<td>The whole specification</td>
<td></td>
</tr>
<tr>
<td><strong>Weak example</strong></td>
<td>'Milgram only used men, and so the results can't be generalised' because women are different.</td>
<td>Little Albert</td>
<td>Component 1</td>
</tr>
</tbody>
</table>

This is an over simplification. In fact, due to this being a case study, there are issues with generalisation beyond the sex of the child.
This Factsheet summarises the issue of gender bias in psychological theory and research.

The issue of gender bias arises throughout the topics covered in psychology.

What does the term ‘gender bias’ mean?
- Gender refers to the psychological part of our sex, which is masculinity and femininity rather than the biological category of being male or female.
- Bias refers to an imbalance or distortion of views.
- Gender bias therefore refers to the distortion in attitudes and beliefs based on our prejudices or pre-existing ideas concerning gender. For example, women are believed to be more nurturing than men, and men more aggressive than women.

Are gender differences real?
- Gender differences may be real or may be culturally created.
- Maccoby and Jacklin’s (1974) review of research identified four real differences between girls and boys:
  1. Girls have greater verbal ability than boys.
  2. Boys have greater visual and spatial abilities than girls.
  3. Boys have greater arithmetical ability than girls (but only at adolescence).
  4. Girls are less aggressive than boys.

- Shaffer (1993) further identified:
  1. Girls show more emotional sensitivity.
  2. Boys are more vulnerable to learning difficulties than girls.
  3. Boys tend to tend to be more physically active than girls.

- Williams and Best (1982) found many similarities across cultures suggesting a universal biological basis for gender stereotypes. Men were seen as having a more instrumental role (more dominant, aggressive and autonomous), while women had a more expressive role (more nurturing, deferent and interested in affiliation).

Exam Hint: Do not confuse gender bias and gender differences – these are two different things!

Different types of gender bias
- Hare and Marecek (1988) identified two forms of bias:
  1. Alpha bias – tendency to exaggerate differences between men and women.
  2. Beta bias – tendency to minimise or ignore differences between men and women.

1. Alpha-biased theories and studies
- These theories assume that there are real differences between men and women. For example:

  1. Freud
     - Freud assumed that male behaviour was the standard for all behaviour and female behaviour was then described as a deviation from that standard.
     - The differences in genders were emphasised in the Oedipus/Electra complexes (see glossary).
     - Freud believed that a child’s superego developed when they identified with the same sex parent. Boys are seen to identify more with their father than daughters identify with their mother, so that boys develop stronger superegos.
     - There are many criticisms of Freud’s theory. For example:
       1. This gender difference did not occur in most studies (Hoffman, 1975).
       2. Freud’s subjects were predominantly middle-class Viennese women.

2. Gilligan’s (1982) theory of moral development
- This proposes that women have a ‘different moral voice’ from men.

   - This stage theory was based on interviews conducted with women.
   - Walker’s (1984) review of 108 studies found evidence for only eight clear gender differences.

3. Evolutionary psychology
- This approach highlights different traditional roles for men (hunting) and women (childcare).

   - By focusing on the differences between genders, such theories assume there is a similarity within each gender.
   - Pre-conceived expectations about gender differences determine the research question, ignoring other factors that may be causing any gender differences found.

   - Traditional psychology has suffered from gender bias since it sought to explain behaviour in terms of internal causes such as biological sex differences, ignoring social causes.
2. Beta-biased theories and studies
- These theories are less common than alpha bias.

- Proposes it is healthy if you have a mixture of positive masculine and feminine characteristics (androgy nous), since those who are androgy nous can respond more flexibly to different situations compared to those with just masculine or feminine characteristics.
- This assumes that masculine and feminine qualities are equivalent (Hare-Mustin & Marecek, 1988).

2. Family systems theory (Minuchin, 1974)
   This explains the development of anorexia as a consequence of interactions within the family, ignoring different gender orientations.

3. Theories based on research with one gender
- Prior to the 1970s, most generalisations made in psychology were based on the observation of male behaviour, such as the studies of social influence. See text box for more examples.
- This bias has made people view men and women as equal, and led to equal treatment in legal terms, and in access to education and employment.
- This bias has drawn attention away from the differences in power between men and women.
- This bias tends to produce sex differences.

Examples of research using single sex subjects:
1. Kohlberg’s (1963) theory of moral development was based on studies of moral dilemmas with males as the main actors and males as participants.
2. Many conformity and obedience studies used only male participants (e.g., Asch 1955; Tajfel, 1970; Milgram, 1974).
3. Mosovici’s (1969) study on minority influence used only female participants.
4. Sherif et al.’s (1961) Robber’s Cave experiment of intergroup conflict and prejudice used only boy participants.
5. Erikson’s (1968) research into lifespan development used only male participants.

Androcentric bias
- This is a bias in favour of males.
- In psychology, androcentrism occurs where the male is seen as the norm, and research and theory are focused on men’s experiences and behaviours. Any differences in female behaviour are then viewed as abnormalities/inferior (e.g., Freud’s theory).
- Beta bias tends to produce androcentric theories. For example, the many theories based on research using only male subjects (see text box).

Gender bias in the research process
- Gender bias can be found at different stages in the research process (Denmark et al., 1988):
  1. Formulation of the research question – this often reflects the current cultural gender stereotypes in which the research is carried out.
  2. Research design – the experimental approach is ‘masculine’ based on logic and rationality.
  3. Research methods – male researchers have been shown to act differently towards male and female participants (Rosenthal, 1966).

4. Selection of participants – research has typically used white, male undergraduates.

5. Interpretation and use of results – findings based on one sex are applied to both and may be used to perpetuate discrimination. For example, Kohlberg’s (1963) findings on the development of morality were interpreted as evidence of female inferiority.

6. Publishing of research – journals tend to publish only those studies that have significant findings, so for gender research that means differences found are more likely to be published, exaggerating the difference (alpha bias).

7. Research approaches – the nomothetic approach is more prone to beta bias whilst the idiographic approach is more subject to alpha bias.

Overcoming gender bias
- Worell and Remer (1992) propose four ways in which theories could overcome some gender bias:
  1. Gender-free – view men and women as similar in their psychological make-up.
  2. Flexible – use ideas that can apply to individuals or groups of any age, race, gender or sexual orientation.
  3. Interactionist – recognise the multiple influences on a person’s behaviour; gender is just one factor.
  4. Lifespan – assume behaviour can change at anytime rather than at specific times.

- Feminist psychology aims to redress the balance of androcentrism in psychology by:
  (i) providing women with appropriate training programmes to overcome inferiorities found (e.g., Eagly, 1978).
  (ii) being aware of how androcentric theories view female behaviour as abnormal.

Other examples of gender bias
- Denmark (1982) found evidence of gender bias in psychological texts. In psychological research, women were found to be presented in photos as mentally ill or passive participants while males were more often depicted as therapists or researchers.
- There is evidence of gender bias in the classification and diagnosis of psychological abnormality. A patient’s symptoms may be interpreted in terms of traditional sex-role stereotypes (Worell & Remer, 1992) and health and normality are defined in terms of the sex-role stereotype for men (Broverman et al., 1981) (i.e., androcentric). For example, doctors are more likely to diagnose depression in women compared with men even when they have similar scores on standardised measures of depression or identical symptoms (World Health Organisation).
- It could be argued that there is gender bias in the DSM. For example, the DSM-IV criteria for anorexia nervosa include three consecutive months of amenorrhea (American Psychiatric Association, 1994), thereby excluding males.

Exam Hint: Gender bias occurs throughout psychology and is not restricted to the examples given here. Any examples may be used when answering a question but you need to be able to explain what type of bias you are describing (alpha bias, beta bias, androcentrism).

Acknowledgements: This Psychology Factsheet was researched and written by Louise Hope.
‘Males and females differ in their brain features’. Discuss the extent to which you agree with this statement. [25]

Plan your answer in the space provided:
<table>
<thead>
<tr>
<th>Exploration of the controversy to include...</th>
<th>What is expected?</th>
<th>Evidence from the Eduqas specification</th>
<th>How used?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Benefits of being a science</strong></td>
<td>Why having the characteristics of a science (e.g. control, reliability) improves the carrying out of research in psychology, as well as ensuring more beneficial, ethical and valid findings.</td>
<td>Raine</td>
<td>To emphasise that due to the scientific aspect of the work, there can be a higher degree of reliability given to the work which in its turn allows for greater trust and ethical application of the findings.</td>
</tr>
<tr>
<td><strong>Changing nature of 'science'</strong></td>
<td>As well as the nature of psychology changing over time, there needs to be a consideration of how the general understanding of what constitutes 'science' has changed.</td>
<td>Positive psychology</td>
<td>To demonstrate how different types of behaviours are now being considered appropriate for scientific study. This also demonstrates the progress from the more abstract/ethereal humanistic approach.</td>
</tr>
<tr>
<td><strong>Costs of being a science</strong></td>
<td>Due to the many philosophical aspects of psychology, there could be areas where the characteristics of science could detract from the overall meaning. Gestalt principles apply here of the whole being greater than, and different from, the sum of the parts.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Methodologies used by the various approaches</strong></td>
<td>Should the psychodynamic approach rely solely on case studies, or can modern brain scanning techniques provide opportunities for further investigation into the assumptions of this approach?</td>
<td>Classic research</td>
<td>As specific examples of common methodologies for the approaches (biological – brain scanning experiment; psychodynamic – case studies with interviews; cognitive – experiment in a laboratory; positive – meta-analysis).</td>
</tr>
<tr>
<td><strong>Weak example</strong></td>
<td>Care should be taken that this controversy is not simply a compare and contrast of the scientific status of the approaches – the whole of psychology should be considered and the implications of this.</td>
<td>Psychodynamic Approach</td>
<td>Whilst the original concepts and the methodologies used were indeed unscientific in appearance, developments in neuroscience is now showing strong scientific evidence for the more abstract concepts of the unconscious, etc. (e.g. Solms).</td>
</tr>
</tbody>
</table>
Debate: Psychology as science

This Factsheet considers the definitions and theories of science and the arguments for and against psychology as a science.

What is a science?

- ‘Science’ means knowledge; that is, what we know to be true rather than what we believe to be true.
- Characteristics of a science include:
  - Uses empirical (see glossary) methods of observation and investigation often involving laboratory experiments.
  - Constructs theories/makes predictions which can be tested and then refuted/refined. There is the possibility that theories can be disproved by evidence (termed ‘falsifiability’ by Popper, 1969).
  - Objectivity - data collected as objectively as possible under controlled conditions.
  - Predictions are made about what is expected to happen under controlled conditions.
  - Replicability - it is possible for findings to be repeated.
  - Paradigm - there is a generally accepted theoretical orientation (see text box ‘Paradigm Approach’).
- Allport (1947) proposes there are three goals of science; prediction, understanding and control.
- There are different ways of classifying science:

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>(produces scientific explanations usually in form of laws/general principles)</td>
<td>(develop theories which are constantly tested and refine)</td>
</tr>
<tr>
<td>Soft</td>
<td>Hard</td>
</tr>
<tr>
<td>(difficult to use determinist and reductionist approach due to subject matter)</td>
<td>(uses reductionist approach and experiments)</td>
</tr>
<tr>
<td>Induction</td>
<td>Deduction</td>
</tr>
<tr>
<td>(theory construction)</td>
<td>(empirical testing)</td>
</tr>
</tbody>
</table>

Exam Hint: Listing the above characteristics of science will gain AO1 marks. To gain AO2 marks, you will need to present them as part of a sustained discussion rather than just listing them.


1. Pre-science - no generally accepted paradigm.
2. Normal science - there is a generally accepted paradigm which influences experiments conducted and the way the findings are explained.
3. Revolutionary science - a new paradigm replaces an old paradigm (‘paradigm shift’).

Is it desirable/possible that psychology is a science?

- Silfe & Williams (1995) argue:
  - There is a need for empirical validation.
  - The use of a qualitative method is necessary when studying human behaviour to understand experience of those participating in research.
  - There is a need to use different methods depending on what is being investigated - there is no one method that is always the best.
  - Whether psychology is viewed as a science has implications for research funding as sciences tend to receive greater funding.

Exam Hint: Consideration of whether psychology should aim to be a science at all can earn AO2 marks.
## Is psychology a science?

### FOR
- Research generally uses scientific methodology.
- Dominant method is the laboratory experiment allowing for control and prediction.
- Although psychology does not have one single paradigm this is also true of biology.
- There are a number of mini paradigms (e.g., cognitive approach, behaviourism) with different paradigms being dominant at different times.
- Kuhn’s view of science is seen by some as extreme (e.g., Lakatos, 1970).
- Psychological studies in controlled conditions (e.g., laboratory experiments) are replicable.
- Some theories in psychology are falsifiable (e.g., Broadbent’s 1958 filter theory of attention).
- Some levels of psychology are scientific (e.g., neurobiology).

### AGAINST
- Research often lacks *internal* and *external* validity, there are problems of demand characteristics. These problems occur because:
  - It is difficult to be objective.
  - Sometimes it is not possible to measure the intended behaviour so instead we observe something that represents this behaviour (e.g., physiological changes) or use animals leading to problems in generalising findings to humans.
- There are issues of free will and moral responsibility that need to be considered.
- There is no one main approach or paradigm so as a whole, in Kuhn’s terms, psychology is not a science but a pre-science.
- Replicability is not always possible when variables being studied cannot be manipulated.
- Not all theories are falsifiable (e.g., Freud’s psychoanalysis).
- Some propose a non-scientific approach:
  - Maslow and Rogers propose the use of phenomenology where individuals report their conscious experiences (humanistic approach).
  - Social constructionists argue that as there are no objective data there is a need to use qualitative methods (e.g., discourse analysis).

### Exam Hint: Just listing arguments for and against psychology being a science will only achieve AO1 marks. To achieve AO2 marks you need to discuss and evaluate the evidence for the arguments you present, giving examples.

### Conclusion
- Psychology appears to have some features of a science. Eysenck (2000) argues that some psychological theories have been successful in achieving the scientific goals of prediction, understanding and control, satisfy the criterion of falsifiability and can be replicated.
- It is not possible for any science to be purely objective since if we are to observe we need to know what we are looking for (Popper 1969, 1972). Scientific observations are driven by hypotheses and theories. Eysenck (2000) argues that many psychological theories/models are imprecisely formulated, that data lacks objectivity, ecological validity and a Kuhnian paradigm and that the researcher can influence both collection and interpretation of data.
- The definitions of science are culturally specific to Western Culture (Valentine, 1992).

### Exam Hint: Arguments against the claim that psychology is a science will be counted as AO2 provided that you use the arguments effectively.

### Example Exam Question:
**Discuss the arguments for the claim that psychology is a science.**

*‘Discuss’ means that you should both describe and evaluate the arguments for psychology being a science. As the question specifically asks for discussion about arguments for psychology as a science you should only include arguments ‘against’ psychology being a science as counterpoints to the ‘for’ arguments you present. Remember to include examples to evaluate the arguments you present; to gain good marks do not simply list or outline your arguments. Synoptic marks can be gained by considering the status of different approaches and the different methodologies employed (e.g. compare areas/branches of psychology which support the claim such as cognitive psychology compared to those that are less supportive like psychoanalysis. Alternatively, do so in terms of methodology employed, such as laboratory method vs. case studies).*
'It is crucial for psychology to be scientific.' Evaluate the validity of this statement [25]

Plan your answer in the space provided:
## Controversies Mark Scheme

<table>
<thead>
<tr>
<th>Marks</th>
<th>AO2</th>
</tr>
</thead>
</table>
| 10    | • Evidence used is well-chosen  
       | • Details are accurate throughout  
       | • There is depth and range to material included  
       | • Effective use of terminology |
| 6-8   | • Evidence used is well-chosen  
       | • Details may have some minor inaccuracies  
       | • There is depth and range to material used, but not in equal measure  
       | • Good use of terminology |
| 3-5   | • Evidence not always relevant  
       | • There may be significant inaccuracies  
       | • There is depth or range only in material used  
       | • There is some use of appropriate terminology |
| 1-2   | • Little credit-worthy evidence given  
       | • Application of the evidence is inappropriate  
       | • There is very little use of appropriate terminology |
| 0     | • Inappropriate answer given  
       | • No response attempted |

<table>
<thead>
<tr>
<th>Marks</th>
<th>AO3</th>
</tr>
</thead>
</table>
| 13-15 | • A sophisticated and articulate interpretation of the issue  
       | • Thoroughly well-developed and balanced arguments  
       | • There is depth and range to the material  
       | • Evaluative comments are evidently relevant to the context  
       | • Excellent structure  
       | • An appropriate conclusion is reached based on the evidence |
| 10-12 | • A good interpretation of the key issue  
       | • Arguments made are thorough and balanced  
       | • There is depth and range to the material (not necessarily in equal measure)  
       | • The evaluative comments are clearly relevant to the context  
       | • Good structure  
       | • An appropriate conclusion is reached |
| 7-9   | • A reasonable interpretation of the key issue  
       | • Arguments are reasonable but may be one-sided  
       | • There is depth or range to the material  
       | • The evaluative comments made tend to be generic and not contextualised  
       | • Coherent structure  
       | • A basic conclusion is made |
| 4-6   | • May be some misinterpretation regarding the key issue  
       | • Arguments made are basic but creditworthy  
       | • There is depth or range to the material  
       | • Answer does not move beyond assertions  
       | • Clear structure  
       | • Any conclusion may be contradictory with flow of the answer |
| 1-3   | • There is no engagement with the issue beyond simple rewording  
       | • There is no conclusion  
       | • Answer lacks clarity  
       | • Answer does not move beyond assertions |
| 0     | • Inappropriate answer given  
       | • No response attempted |